

REMARKS

Claims 1, 2 and 4-9 remain pending in this application with claims 1, 2, 4, 7 and 8 being amended and new claim 9 being added by this response. Claims 1, 2, 4, 7 and 8 have been amended to clarify the present claimed invention. Support for the amendments can be found throughout the specification, and more specifically on page 2, lines 29-32, page 5, line 37 – page 6, line 4 and in original claim 3. Thus, it is respectfully submitted that no new matter is added by these amendments.

Allowable Subject Matter

Applicants would like to thank the Examiner for indicating claims 4, 6 and 8 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Rejection of Claims 1-3, 5 and 7 under 35 U.S.C. 103(a)

Claims 1, 2, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fiedziuszko (U.S. Patent 4,453,146) in view of Miller (U.S. Patent 3,582,536).

The present claimed invention provides a waveguide filter and method of manufacturing the waveguide filter including at least one cavity. The cavity is delimited by at least two inductive irises. The filter further includes at least a block of foam placed inside the waveguide and supporting at least one metallization which forms at least one floating insert placed in one of the inductive irises. Independent claims 1 and 7 each contain features similar to those discussed above, and thus all remarks presented herein apply to each of these claims.

Fiedziuszko describes a dual mode dielectric filter. The filter comprises cavities, irises, and conductive probes. The conductive probes are placed in a notch at the top of the iris (Abstract and Fig. 1). However, Fiedziuszko neither discloses nor suggests “at

least a block of foam placed inside the waveguide and supporting at least one metallization which forms at least one floating insert placed in one of the inductive irises” as recited in claim 1 of the present invention. With this arrangement, the floating insert is isolated from the waveguide and the waveguide is able to resonate at a frequency which depends on the length of the insert and on the coupling with the electric field which depends from the position and inclination of the floating insert. In contrast, Fiedziuszko merely discloses a conductive probe placed in a set location, a cylindrical notch cut into the housing of a filter. This is wholly unlike the present claimed invention which provides a floating insert that does not touch any portion of a waveguide filter and can be positioned in various locations in the waveguide filter. The conductive probe of Fiedziuszko is therefore not the same as the floating insert of the present claimed invention. Furthermore, the Office Action correctly admits that Fiedziuszko does not disclose the floating inserts are supported by a block of foam and that the foam has a relative dielectric constant close to 1 (see page 3 of Office Action). Fiedziuszko is silent regarding the block of foam. Therefore, Fiedziuszko neither discloses nor suggests “at least a block of foam placed inside the waveguide and supporting at least one metallization which forms at least one floating insert placed in one of the inductive irises” as recited in claim 1 of the present invention.

Miller describes a corrugated coaxial cable comprising a foam dielectric sleeve insulating an inner conductor, and a helically corrugated copper outer conductor. (col. 1 lines 1-5, col. 2 lines 20-26). However, Miller, similarly to Fiedziuszko, neither discloses nor suggests “at least a block of foam placed inside the waveguide and supporting at least one metallization which forms at least one floating insert placed in one of the inductive irises” as recited in claim 1 of the present invention. Miller is also silent regarding a floating insert and an inductive iris. Furthermore, Miller merely discloses the use of foam to insulate an inner conductor for a coaxial cable. In contrast, the present claimed invention uses the foam to support a floating insert in a waveguide filter. Therefore, Miller, similarly to Fiedziuszko, neither discloses nor suggests “at least a block of foam placed inside the waveguide and supporting at least one metallization which forms at least one floating insert placed in one of the inductive irises” as recited in claim 1 of the

present invention.

The Office Action argues that “it would have been obvious to one of ordinary skill in the art to replace the general dielectric sleeve of Fiedziuszko with the foam dielectric sleeve as taught by Miller” on page 4. The applicant respectfully disagrees. Fiedziuszko describes a dual mode dielectric filter. Miller describes an improved coaxial cable. While Fiedziuszko is concerned with reducing the size of the filter and preserving its electrical characteristics, Miller is concerned with improving the bending life of a coaxial cable. These two patents have two completely unrelated objectives and concern unrelated devices. Additionally, neither Fiedziuszko nor Miller are concerned with the objectives of the present claimed invention, namely proposing “an H-plane filter with inductive irises which exhibits a quasi-elliptic response while retaining the same compactness as a filter having a Chebyshev response” (page 2, lines 4-6).

However, even if the systems of Fiedziuszko and Miller were combined, the combination would neither disclose nor suggest “at least one floating insert placed in one of the inductive irises and supported by at least one block of foam” as recited in claim 1 of the present invention. The combined system would create a dual mode dielectric filter with a conductive probe placed in a notch in the housing of the filter. A foam dielectric sleeve would insulate the conductive probe. In contrast, the present claimed invention has a floating insert held in place by dielectric foam that does not touch any edge of a waveguide filter, thus allowing the insert to “float”. Therefore, the combination of Fiedziuszko and Miller, similar to the individual systems, neither discloses nor suggests “at least one floating insert placed in one of the inductive irises and supported by at least one block of foam” as recited in claim 1 of the present invention.

Additionally, claim 7 is further considered patentable as Fiedziuszko and Miller, when taken alone or in combination, neither disclose nor suggest “that the block supports at least one metallization which forms at least one floating insert” as recited in claim 7 of the present invention. An example of metallization is “a deposition of conducting paint done through a mask on which the patterns to be implanted have previously been

inscribed” (page 5, lines 25-27). Fiedziuszko and Miller both are silent regarding metallization on a foam block. Therefore, Fiedziuszko and Miller neither disclose nor suggest “that the block supports at least one metallization which forms at least one floating insert” as recited in claim 7 of the present invention.

Claim 2 is considered patentable based on its dependence on claim 1. Claim 2 is further considered patentable as both Fiedziuszko and Miller neither disclose nor suggest that “the at least one floating insert is placed nearer to the edge of the iris than to the centre of the iris” as recited in claim 2 of the present invention. Fiedziuszko merely discloses a conductive probe placed in a set location, a cylindrical notch cut into the housing of a filter. In contrast, the present claimed invention has a floating insert that does not touch any portion of a waveguide filter and can be positioned in various locations in the waveguide filter. Miller is silent regarding a floating insert. Additionally, Fiedziuszko and Miller both do not disclose or suggest a floating insert. Therefore, neither Fiedziuszko nor Miller discloses or suggests that “the at least one floating insert is placed nearer to the edge of the iris than to the centre of the iris” as recited in claim 2 of the present invention.

Additionally, the combination of Fiedziuszko and Miller, similar to the individual systems, neither discloses nor suggests that “the at least one floating insert is placed nearer to the edge of the iris than to the centre of the iris” as recited in claim 2 of the present invention. The combined system would create a dual mode dielectric filter with a conductive probe placed in a notch in the housing of the filter. A foam dielectric sleeve would insulate the conductive probe. In contrast, the present claimed invention has a floating insert held in place by dielectric foam that does not touch any edge of a waveguide filter, thus allowing the insert to “float”. The combination of Fiedziuszko and Miller does not disclose a floating insert, therefore, the combination of Fiedziuszko and Miller, similar to the individual systems, neither discloses nor suggests that “the at least one floating insert is placed nearer to the edge of the iris than to the centre of the iris” as recited in claim 2 of the present invention

In view of the above remarks and amendments to the claims it is respectfully submitted that there is no 35 USC 112 enabling disclosure in Fiedziuszko or Miller, when taken alone or in combination, that would make the present invention as claimed in claims 1 and 7 unpatentable. As claims 2 and 5 are dependent upon claim 1, it is respectfully submitted that they are allowable for the same reasons discussed above regarding independent claim 1. In view of the above remarks it is respectfully submitted that this rejection is satisfied and should be withdrawn.

New claim 9 is dependent upon claim 1, it is respectfully submitted that the claim is allowable for the same reasons discussed above regarding independent claim 1. Claim 9 has been added to claim additional features of the present invention.

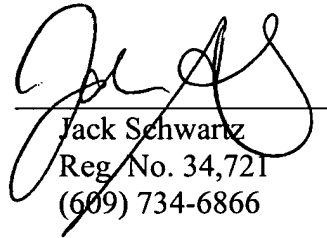
Having fully addressed the Examiner's rejections, it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicant's attorney at the phone number below, so that a mutually convenient date and time for a telephonic interview may be scheduled.

No fee is believed due. However, if a fee is due, please charge the additional fee to Deposit Account 07-0832.

Respectfully submitted,

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